

Exploring the challenges in developing and managing digital agility among Sri Lankan Family Business owners during the economic crisis situation: A qualitative study

Abstract

The purpose of this qualitative study is to explore the ongoing economic crisis challenges in developing and managing digital agility among Sri Lankan family business owners. This study used a mono-method qualitative approach to identify the management strategies using the self-determination theory and social exchange theory to cope up with digital agility among Sri Lankan family business owners. Authors interviewed 25 family business owners in Sri Lanka and assessed the findings using the NVivo software. A total of five thematic findings have been identified as challenges in developing and managing digital agility among Sri Lankan Family Business owners. According to this study, digital capability plays a significant role in supporting top management to apply ambidextrous leadership during turbulent times. Findings contribute to the family business owners in Sri Lanka to identify proper strategies in by overcoming the challenges associated with developing and managing digital agility of family business firms.

Keywords: digital agility, Sri Lankan context; qualitative; family business owners; NVivo

1. Introduction

Among scholars of organizations, agility is defined in a variety of ways. It is the ability to continuously adjust and adapt a company's fundamental business strategy in order to create value (Teece, 2014). Agile is defined as "the capability to efficiently and effectively re-deploy/redirect resources to value-creating and value-protecting (and capturing) higher-yield activities based on internal and external conditions" (Teece, 2014). An organisation is the highest unit that can be digitally agile (Salmela et al., 2022). According to Salmela et al., 2022, digital agility refers to a company's capacity to capitalise on opportunities and threats generated by digital technologies (K et al., 2022; Kraus et al., 2022). In order to be digitally agile, organisations, industries, individuals, and societies must be transformed (Salmela et al., 2022). Digital technologies have a significant impact on an organization's agility (financial performance, product innovation, and process innovation) along with relational capability and

innovation capability (Rizomyliotis et al., 2022). Digital agility can impact both individual and organisational outcomes.

According to the department of census and statistics, Sri Lanka reported 34.3 percent computer literacy within past three years. The main reasons for this study to be conducted in Sri Lankan context is that, as a result of digital agility, companies are able to change their business practices rapidly and easily. As an example, new technology might be implemented effectively, or new business objectives might be met (Fernando & Almeida, 2012; Batten et al., 2007).

It is essential to define what a family business is before describing the strategic management process on family businesses. Our definition of family business is based on Chua, Sharma, and Chrisman (1996) as a business that is governed and/or managed on a sustainable, potentially cross generational basis, to shape and perhaps pursue the vision of the business held by members of a family. Research on family businesses is largely descriptive rather than prescriptive. Prescriptive literature has mostly focused on improving family relationships rather than business performance.

Despite the importance of understanding the family-business dyad, there are other objectives that should be pursued such as ongoing economic crisis challenges. Unlike publicly listed companies, family-owned companies are shaped by their owners' values (Leso et al., 2023; Kalaignanam, 2021). A firm's industry, internal and external resources, market leadership, and dominant staff qualities may influence the priority of dimensions, as noted by Austin and Seitanidi (2012), Leso et al. (2023), and Kalaignanam et al. (2021). The ability to manage crises effectively is crucial for family firms, including family SMEs, in order to preserve their socioemotional endowment (Sriyani, 2022). In Sri Lanka, family businesses lack the skills, talents, and expertise necessary to manage digital technologies as a crucial enabler. Using a countrywide cross-sectional survey, multiple experts found various economic and socio-cultural behaviours of small enterprises in Sri Lanka (Batten & Hettihewa, 1999; Batten et al., 2007; Wijewardena et al., 2023) with less studies focusing on the digital agility of family firms in Sri Lanka (Fernando & Almeida, 2012; Batten et al., 2007).

A combination of lowering costs, the increasing simplicity and availability of computers and IT programs, and improved accessibility have made IT a viable resource for many organizations (Moeuf et al., 2018). Even so, small businesses have been slower to adopt IT innovations than their larger counterparts (Moeuf et al., 2018). Modern small family businesses interact with their economic/market environment primarily through IT and the internet (Tece,

2014). Additionally, IT enables electronic interaction and resource exchange between these enterprises, their customers, and other stakeholders (Dibrell et al., 2008; Prasanna et al., 2019). Researchers, consultants, and practitioners can gain insight into how IT adoption affects these sources of family income by understanding how it impacts business capabilities and performance (Dibrell et al., 2008; Prasanna et al., 2019). A family business is typically vulnerable to attacks due to its autonomous, family-oriented nature (Gomez-Mejia et al., 2007; Prasanna et al., 2019; Hai et al., 2021) and its limited financial resources (Lima et al., 2020). For example, in many cases, family businesses have been described as long-term oriented and traditional companies. In the context of employment, the literature often refers to rather negatively afflicted stereotypes, such as risk averseness, conservatism, or resistance to change, which may have the potential to damage the popularity of family businesses among certain types of job seekers. It has been observed that young workers tend to prefer startups over big companies, as they value their aura of dynamic innovativeness and energy.

In addition, the owners of family firms typically experience a crisis twice, once as private citizens and then again as business owners (Durst et al., 2019; Lima et al., 2020). At present, Sri Lanka is experiencing the worst economic crisis it has ever faced since it became an independent nation in 1948. In the present situation, the country is not able to pay the import bills for food, fuel, gas, and other essential commodities that are necessary for the day-to-day living of citizens, and repaying the massive foreign debts is a distant dream that will never come true (Sriyani, 2022). Therefore, this study attempts to fulfill this gap in the existing literature by exploring the ongoing economic crisis challenges in developing and managing digital agility among Sri Lankan family business owners. Thus, research question is; ***what are the ongoing economic crisis challenges in developing and managing digital agility among Sri Lankan family business owners?***

The first section of this paper explain the importance of study with the respective research gaps and research objectives. The second section presents the detailed theoretical review of this study. The next sections discuss the thematic findings and the discussion of the findings. Finally, the conclusion, limitations and implications will be presented.

2. Literature review and the conceptual background

Several corporate executives in recent years have opted to invest in extensive and transformative digital overhauls with the expectation that the outcomes will be favourable, according to McGrath and McManus (2020).

2.1 Importance of digital agility for family-owned SMEs in Sri Lanka

A failed digital transformation initiative can result in the departure of executives, layoffs, and the implementation of a back-to-basics approach, which relegates digital activities to pilot-project status, resulting in a backlash against digital initiatives (Iqbal et al., 2023; Hai et al., 2022). It has been confirmed that a substantial number of organizations struggle with digital transformation due to the lack of a comprehensive plan and a cohesive digital strategy, as reported by AlNuaimi et al. (2022). According to Austin and Seitanidi (2012), it is imperative for managers to combine the strategic rationale of social interaction with other managers and strategic investment opportunities to foster organisational virtuousness through digital agility. The effective management of digital agility is crucial for businesses of all sizes. Business owners are significantly impacted by factors such as heightened awareness, informed decision-making, and prompt execution, as noted by AlNuaimi et al. (2022).

While it is important to understand the family-business dyad, there are other objectives that should also be considered, such as addressing the challenges posed by the ongoing economic crisis in Sri Lanka. Unlike publicly listed companies, family-owned companies are shaped by their owners' values (Leso et al., 2023; Kalaignanam, 2021). There is no doubt that family firms, including family SMEs, must be capable of managing crises effectively in order to preserve their socioemotional endowment in order to continue thriving (Sriyani, 2022). There is a lack of skills, talents, and expertise in Sri Lankan family businesses when it comes to managing digital technologies as a crucial enabling technology. It has been reported that multiple experts, using a cross-sectional survey conducted across the country, have identified various socioeconomic and economic behaviors of small enterprises in Sri Lanka (Batten & Hettihewa, 1999; Batten et al., 2007; Wijewardena et al., 2023). There have been fewer studies focusing on the digital agility of Sri Lankan family firms (Fernando & Almeida, 2012; Batten et al., 2007; Buruca, 2023).

The next section discusses the applicability of the self-determination theory and social exchange theory for this study.

2.2 Self-determination theory (SDT)

Deci and Ryan (1985) applied intrinsic motivation using deCharms' (1968) distinction between origin and pawn and White's (1959) motivational model. Deci and Ryan (1980) added a motivational framework to Self-Determination Theory (SDT) to activate and direct intrinsic and extrinsic behaviour. 1985 saw this. In 1980, Deci and Ryan proposed Self-Determination Theory (SDT) to explain human motivation in connection to intrinsic and extrinsic incentives. Performance could be reduced by external incentives if intrinsic motivation is undermined (Gagné et al., 2022; Guay, 2022). Intrinsic motivation (IM) refers to the motivation that is generated from within the individual, as opposed to extrinsic motivation, which is driven by external rewards or punishments (Gagné et al., 2022; Guay, 2022).

Early research on SDT postulated that providing external rewards could disrupt an individual's intrinsic motivation and lead to a decrease in performance (Roussillon et al., 2022; Gagné et al., 2022). This theory assumed that when an individual is externally rewarded, they will focus on the reward, rather than the task itself (Deci & Ryan, 1985; Guay, 2022). Consequently, SDT proposed that individuals should be encouraged to focus on the task itself, rather than on external rewards, to maintain their intrinsic motivation (Xia et al., 2022). In the years since, SDT has been applied to a variety of domains, such as education, workplace motivation, and health behaviour change (Ong et al., 2022; Gagné et al., 2022; Guay, 2022). Research has demonstrated that SDT is an effective framework for understanding motivation and for developing effective interventions to increase motivation and performance. Deci and Ryan (1985) argued that intrinsic motivation was the result of a need for competence, autonomy, and relatedness in the environment. Deci & Ryan (1985) also suggested that the energization of intrinsic motivation was the result of experiencing positive feedback and reinforcement for engaging in the activity, and that it was the result of a feeling of autonomy in the environment.

SDT can be applied to developing and managing digital agility practices in family business firms in the following ways; Firstly, digital marketing has been growing steadily in South Asia for the last few years (Hawaldar et al., 2022; Behera et al., 2022). South Asia has seen significant growth in social media usage, leading to an increase in online advertising, mainly due to the fact that most of the countries are developing economies (Modgil et al., 2022; Gagné et al., 2022; Guay, 2022). There are six mini-theories in this model and as a result of these mini-theories, people can better understand how self-determination operates in complex social contexts including the sales and promotional practices in business firms such as social media

reviews, website reviews, comments, blogs, and email marketing (Kusmaharti, 2022; Gagné et al., 2022; Guay, 2022).

2.3 Social exchange theory (SET)

Literature shows that in crisis management the risk assessment was explored in detailed manner (e.g., Tsai et al., 2010; Cortez & Johnston, 2020) when considering the growth or monetary benefits of the business. When marketing products and services in family-owned businesses amid uncertain times, it's important to consider the next generation of managers, generation Y. We describe human attitudes and behaviours during times of economic crisis using social exchange theory (Cropanzano & Mitchell, 2005; Tsai et al., 2010; Kilroy et al., 2023).

The SET concept was originally developed by Homans (1958) and Blau (1964) in the field of psychology but was later adapted for use in the field of management (e.g., Cropanzano & Mitchell, 2005). A logical application of Set-in would be to build and manage digital agility practices within B2B marketing organizations. This description can be based on the four foundational principles of SET, which are stated in the B2B marketing literature by Lambe et al. (2001). Firstly, the theoretical constructs measures economic and social outcomes resulting from exchange interactions; Secondly, if the exchange relationship depends on these outcomes over time, then a need arises on comparing it with alternatives; Thirdly, trust and commitment can be increased over time by positive exchange interactions; and finally, positive exchange interactions create relationship norms with the time. To gain a comprehensive understanding of SET, it is essential to examine the exchange outcomes during turbulent times in B2B marketing firms.

It is particularly useful to manage global pandemics (Kilroy et al., 2023; Garner, 2017; Schneider & Spieth, 2013) from a perspective of SET (Granovetter,1973; Blau,1964; Kong et al., 2019; Murshed et al., 2015). The buyer-seller relationship can, however, become stronger after a crisis meaning that, the relevance of various marketing strategies to cope up the digital agility capacity in family business firms during turbulent times become immensely essential (Tsai et al., 2010; Kong et al., 2019). According to the aforementioned studies, various marketing strategies are important to cope during turbulent times. However, none of the studies to date have examined such practices which can enhance the digital adoption ability of the business firm's ether considering the Generation Y managers or family business firms (Weber & Tarba, 2014; Kilroy et al., 2023).

3. Methodology

The data was collected using semi-structured interviews and 25 family business owners in Sri Lanka was interviewed via non-probability snowball sampling method (Feng & Xie, 2019; Jayawardena, 2022). As one of the most popular methods of sampling in qualitative research, snowball sampling is a method that is characterized by networking and referral characteristics, which are at the heart of the snowball sampling process. Research usually starts with a small number of initial contacts (seeds), who meet the research criteria and are invited to become participants in the research by researchers. A participant who agrees to participate is then asked to recommend other contacts who match the research criteria and are potentially willing participants, who then recommend other potential participants, and so on. Similarly, in this study also the non-probability snowball sampling method was used to identify the next best 15 family business owners after the referral of the first 10 interviewees. The SME sector includes sole-family business and sole family business owners can disclose the necessary information and can decide not to reveal anything confidential which might be harmful for their brand image. Therefore, the ethical aspects of this research can be safeguarded.

The theoretical assumptions in the self-determination theory and social exchange theory was used to prepare the transcripts. This sample can be further justified based on the precedent of studies by Morse (2000), who recommended that experimental research involves 20 to 30 interviews per participant, with two to three interviews per person (Feng & Xie, 2019; Pieters et al., 2010). A total number of 25 questions were asked considering the operationalized variables including motivation, technology persuasion, trust and commitment, positive exchange interactions, sales and promotional practices and social media interaction. The NVivo QSR software was used to analyse the data and the data analysis took three major stages (Jayawardena et al., 2022). The toolkit developed by O'Neill (2013) was found to be useful in this study for the thematic analysis.

The first step in the data analysis process with NVivo is to design a database for the research study in order to collect and analyze the data (Jayawardena et al, 2022; O'Neill, 2013). The interviews with each participant took between one and two hours to complete, depending on the duration of the interview. First, participants were asked to complete the first few sections of the information sheet in order to determine whether they were capable of disclosing basic demographic information (Jayawardena et al., 2022). In total, there were 25 participants, of which 15 were between the ages of 18 and 30, which is 60% of the total. In addition, 40% of

the participants were 30 years and beyond. It is important to note that the primary data included transcripts of interviews with voice recordings with 95% of male family business owners with only 5% of female family business owners (Jayawardena et al., 2022).

The second step is to analyse the coded materials using word similarity graphs. The purpose of this step is to identify the main themes based on the transcripts. As part of this process, the interview materials were coded and related concepts were grouped into a 'node' that was then used to analyse the data (Jayawardena et al., 2022). The nodes were used to identify the sub-concepts emerged which means the codes that leads to identify the main branches of each theme. For example, the workforce nature is the theme identified based on the codes and sub-concepts of unemployment, promotions, and outdated workforce.

The third step is to analyse the identified content through word cloud and query results. This step is essential to identify the validity of each theme. The concept of content analysis refers to the process of identifying patterns in textual data in order to determine the meaning of the text (Jayawardena et al., 2022; Gray & Densten, 1998). There are a number of methods that can be used to analyse data, including merging nodes into hierarchies, visualizing data using cluster analysis methods, and analysing data using searches and word clouds (Jayawardena et al., 2022; Hutchison et al., 2010; O'Neill, 2013). In order to analyze the derived themes, we used query result analysis as well as word cloud analysis.

4. Qualitative Thematic Analysis

This section presents the NVivo thematic analysis of the interview transcripts.

4.1 Digital business agility and workforce transformation

Initial themes were developed from the node cluster diagram, and Figure 1 illustrates the word cloud diagram using the word similarity approach (Jayawardena et al., 2022; Hutchison et al., 2010; O'Neill, 2013). According to the query results, participants explained the need of the workforce transformation in handling the digital business agility. Some of the NVivo findings on these sub-concepts are as follows (Jayawardena et al., 2022).

Table 2: NVivo query findings

Theme	Codes	NVivo QSR query results
Workforce nature	Outdated	* I have few employees who are outdated, and that generation is not aware on some concepts.....(P16)
	Unemployment	* I have an employee who was doing part-time uber job, which made me to hire him as he was a final year student in business management(P18) *Some unemployed graduates are very confident in transforming and learning new system updates during their interviews. However, after recruitment, that drive cannot be seen and very hard to make them work (P20)
	Promotions	* I think giving both monetary rewards and non-monetary rewards will motivate them...for example the title, award nights really matters for the employees as well as salary increments (P13) At least we are trying to give them some good job title which made them feel good or proud about the company as some employees are really sincere, if we treat them properly. So, it is in our hands on how to maintain it sometimes (P10)
Workforce skills	Training and development	* The investments for training and development is a lot....However, it is still worthy of time and money as this skilled employee saves a lot of time and costs (P16) * Energetic supervisors and managers are the sole trainers of our staff ...actually they are doing it well and I personally do not think that separate training seminars are needed (P11)
	Enthusiastic	* Yes, most of the times employees will work energetically if they love what they do(P14)

Social media	Authenticity	<p>It is important to maintain authenticity through Facebook or Instagram pages....(P1)</p> <p>The question is the suitability of social media for your audience. It is a generation Z thing and I do not see a very big relevance on it as to my generation .. (P24)</p>
	Change-seeking behaviour	<p>Be specific when you talk about your product and the services offered....(P20)</p> <p>We are professionals, so it is not good to change our word all the time to our customers. We need to have some professionalism by maintaining the word of mouth with exact information. (P2)</p> <p>Some customers will ask for customised products specially for handloom products from me...(P14)</p>
	Interactivity	<p>Blogs , videos, widgets, tags, forums, location-based services, Web chats, instant messaging, podcasts, and microblogging services are there with free of cost to promote your products. (P6)</p> <p>Tell the customer about the value you can bring from your company or from your products ...(P5)</p>

Based on the word cloud NVivo QSR analysis, the themes authenticity, change-seeking behaviour, interactivity can be further justified as follows (refer Figure 2) (Jayawardena et al., 2022).

Figure 2: Word cloud map for digital business agility and social media engagement



4.3 Digital business agility and technology-enabled capabilities

Initial themes were developed from the node cluster diagram, and Figure 3 illustrates the word cloud diagram using the word similarity approach (Jayawardena et al., 2022; Hutchison et al., 2010; O'Neill, 2013). According to the query results, technology-enabled capabilities are necessary for digital business agility. Some of the NVivo findings on these sub-concepts are as follows (Jayawardena et al., 2022) .

Table 4: NVivo query findings

Theme	Codes	NVivo QSR query results
Awareness	Perception	* I have few employees who are outdated, and that generation is not aware on some concepts.....(P16)
Infrastructure	Resources	* The investments for training and development is a lot....However, it is still worthy of time and money as this skilled employee saves a lot of time and costs (P16)

2010; O'Neill, 2013). According to the query results, **external relationship management** is necessary for digital business agility. Some of the NVivo findings on these sub-concepts are as follows (Jayawardena et al., 2022).

Table 5: NVivo query findings

Theme	Codes	NVivo QSR query results
External stakeholders	Investors	* Investors can have some strict analysis on the amount of resources we have when we are in financial needs....for example, if you go to the bank to take a loan, then the bank will assess your resources no matter the digital technology or physical ones....(P18)
	Feedbacks	*Normally the feedback can be written as reviews nowadays in popular platforms.... (P6)

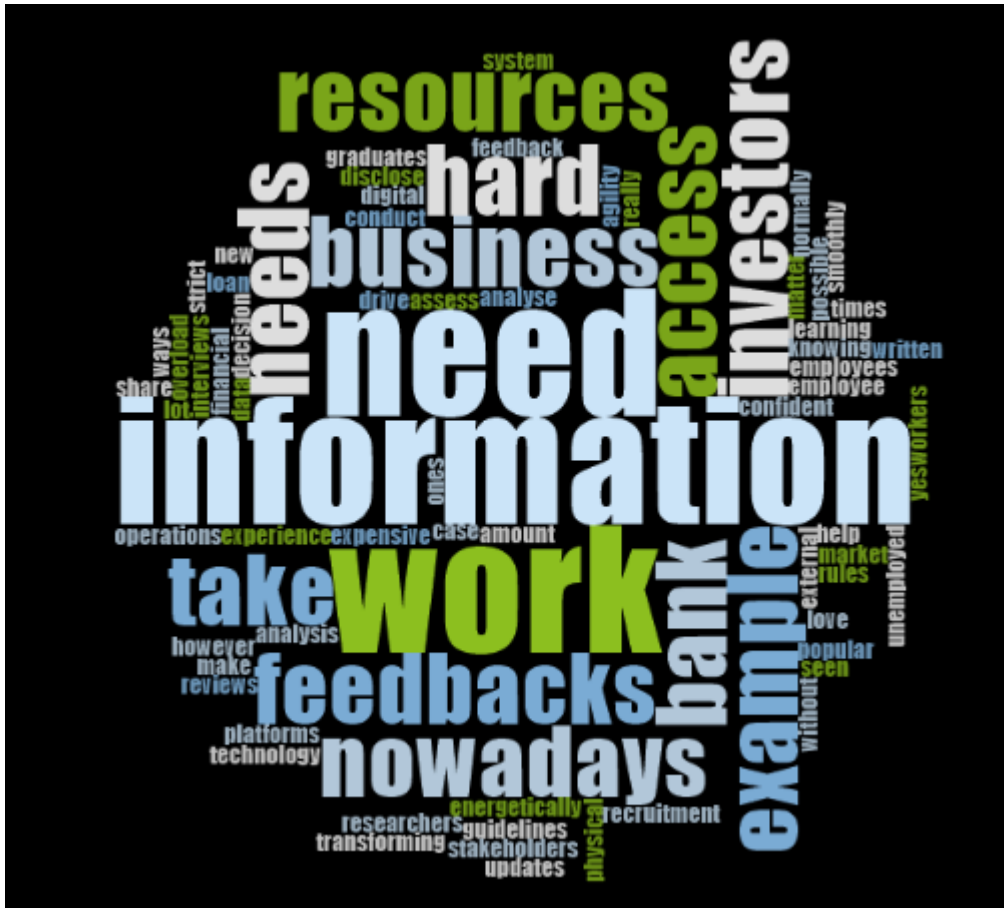
Based on the word cloud NVivo QSR analysis, the themes of investors and feedbacks can be further justified as follows (refer Figure 4) (Jayawardena et al., 2022).

Figure 4: Word cloud map for digital business agility and external relationship management

	Information access	<p>* I have an employee who is not knowing the guidelines or rules when doing the business ...in that case, we need to disclose them the possible ways to conduct the business operations smoothly...(P6)</p> <p>*Some unemployed graduates are very confident in transforming and learning new system updates during their interviews. However, after recruitment, that drive cannot be seen and very hard to make them work ... for example, they really needs the access to information and need to share the experience with co-workers... (P20)</p> <p>* Yes, most of the times employees will work energetically if they love what they do(P14)</p>
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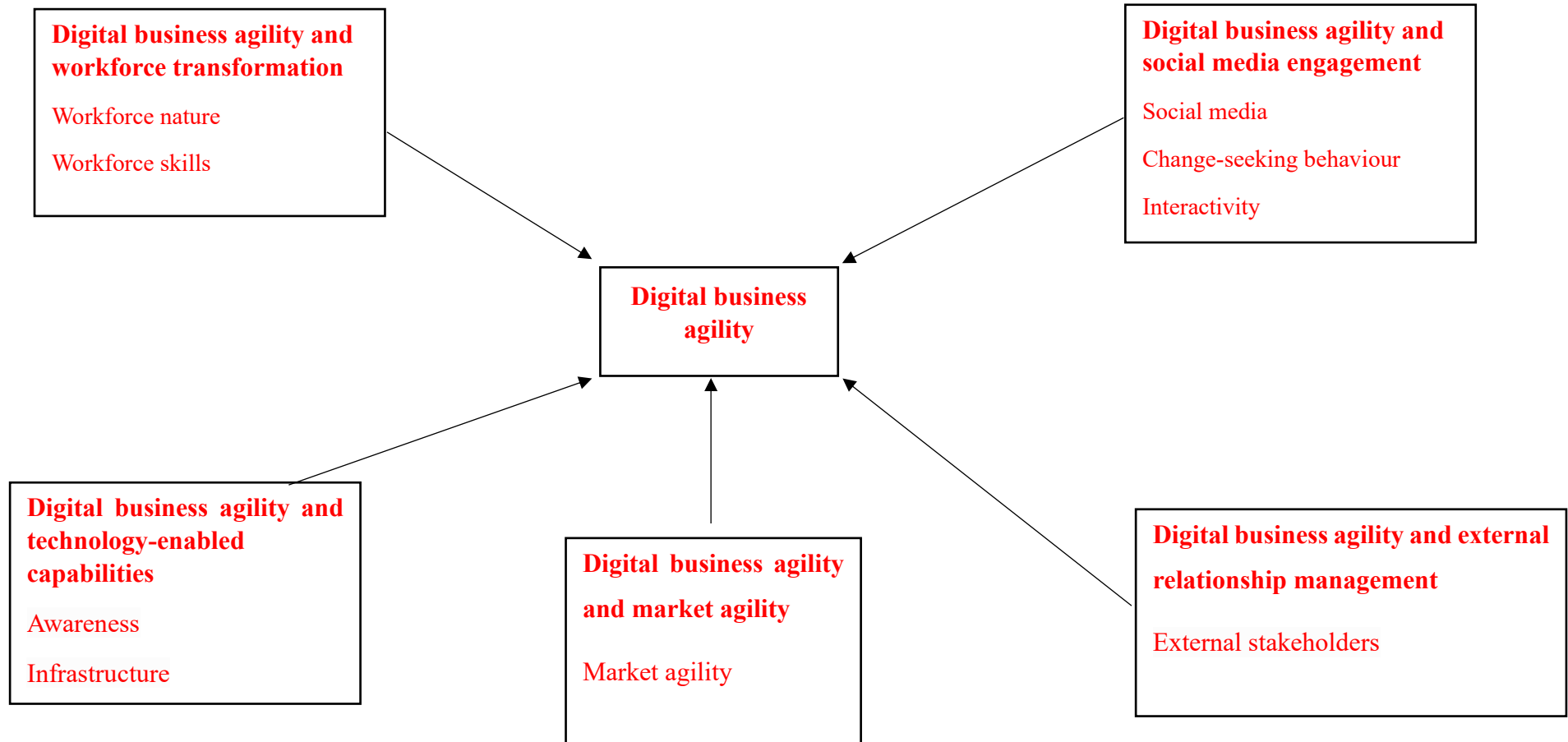
Based on the word cloud NVivo QSR analysis, the themes of market agility can be further justified as follows (refer Figure 5) (Jayawardena et al., 2022).

Figure 5: Word cloud map for digital business agility and market agility



This qualitative analysis leads to the formation of the below integrated framework;

Figure 6: Integrated framework



Source: Developed by authors

5. Discussion of the findings

This section provides a detailed discussion of the results obtained from the aforementioned analysis. In contrast to the majority of existing research on the adoption of digital technology, which includes studies by Melville and Ramirez (2008) and Premkumar et al. (2005), the present study focused on the examination of lateral relationships and their correlation with the management of digital technology. The present research makes a scholarly contribution to the existing literature on self-determination theory and social exchange theory by examining their applicability in addressing the issue of digital agility among family business owners in Sri Lanka.

5.1 Digital business agility and workforce transformation

According to Ismail et al. (2017), the cultivation of a work culture that strategically manages and facilitates the integration of digital technology and human resource skills is crucial for adapting to the uncertain business environment and ensuring sustainable performance. This requires effective management abilities. Although numerous companies have engaged in digital transformation initiatives, recent research on successful cases indicates that firms that achieve a competitive advantage do not depend exclusively on the technologies they implement, but rather on the strategies devised by their leaders (Silva & Oliveira, 2023; Poláková-Kersten et al., 2023; Eller et al. 2020). Notwithstanding this fact, a significant disparity persists between the aspirations of executives and the actualization of prosperous digital transformation endeavours. The topic of digital transformation (DT) is gaining significance among firms globally, as evidenced by the studies conducted by Von Leipzig et al. (2017) and Eller et al. (2020).

According to Horváth and Szabó (2019), it is expected that companies that fail to adjust to the digital landscape will inevitably succumb to "digital Darwinism," resulting in the disappearance of established players and leaving only the most adaptable enterprises to maintain competitiveness in the digital era. The process of aligning business and IT has been made possible by the implementation of digitization strategies, which involve the adoption of technology concepts, software selection procedures, and the integration of data and information with information systems (Imgrund et al, 2018). Imgrund et al. (2018) assert that the process of digitization has brought about substantial enhancements in the utilisation of information

technology by organisations, implementation of IT strategies, and information processing capabilities.

The process of digital transformation has been initiated by the advent of digitization, which is being propelled by the convergence of various technologies such as social, mobile, cloud, and smart technologies. Additionally, the increasing demand for big data applications, automation, and integration has further fueled this process (Verhoef et al., 2021). The research conducted by Von Leipzig et al. (2017) and Eller et al. (2020) revealed that the themes of workforce nature and workforce skills were identified. The predominant area of investigation in agility studies pertains to the agile workforce, with a focus on operations, as noted by Horváth and Szabó (2019). The existing body of literature on workforce agility has predominantly centred on the operational aspects of speed and flexibility. However, there is a dearth of research on the characteristics of agile workforces, as noted by Vial (2019).

Few studies have examined managerial actions that improve workforce agility (Li et al., 2021; Troise et al., 2022; Imgrund, 2018). Craftspeople's incremental improvements to machine tools, metallurgy, armaments, printing machines, and steam engines sparked the Industrial Revolution (Li et al., 2021). In innovation studies, a minimum level of workforce skills is required for continuous product and process improvement, but the types and qualities of these skills in specific occupations and industries have not been addressed (Venkatraman, 1994). Workforce skills and innovation require many disciplines, each with its own insights and approach (Li et al., 2021). Workforce skills were found to be lacking. Digital skills are high-level professional talents that help an organisation use ICT better. Strategic management, operational management, soft skills, and other technical and practical abilities have been introduced to the digital skills repertoire (Li et al., 2021; Von Leipzig et al. 2017; Eller 2020).

5.2 Digital business agility and social media engagement

During an ongoing crisis situation, it is better for SMEs to deploy strategic managerial competences to acquire competitive advantages and sustainability (Singh, 2013). According to the department of census and statistics, Sri Lanka reported 34.3 percent computer literacy within past three years. Digital skills in the workplace will increase SMEs' internal and external capacities (Seebach et al., 2013). Social media marketing, branding, and customer involvement

are feasible. SME digital marketing abilities sometimes comprise social media platforms or content (Li et al., 2021; Von Leipzig et al. 2017; Eller et al. 2020). Privacy issues, fake news, and misinformation on social media can hurt trust, creativity, innovation, and commitment among external and internal users. Digitally trained SMEs employ social media for e-commerce (Von Leipzig et al. 2017; Eller et al. 2020; Waty et al. 2022). Digitally skilled SMEs can promote and collaborate online via social media, blogs, and other tools (Waty et al., 2022). This usage boosts organisational agility. Social media adoption for digital business agility is reported to be done through authenticity, change-seeking behaviour, and interactivity (Wang & Shao, 2022).

5.3 Digital business agility and technology-enabled capabilities

Small family firms should consider digital strategy and organisation, digital process and governance, digital technology, and digital people and skills (Li et al., 2021; Von Leipzig et al. 2017; Eller et al. 2020). Technological innovation is vital to many companies' existence. Whether the technology is for internal or external usage, the end user's reaction is vital (Von Leipzig et al. 2017; Eller et al. 2020). These conversations agree that end users' opposition to technological innovations is natural and informative. Implementing and promoting the idea requires this information (O'Connor et al., 2022). Final users may not understand the benefits or hazards of the innovation as well as key decision makers and planners (Heisterberg & Verma, 2014). Since acceptance and use might be forced, separating these two components is crucial for organisational users.

Adopters may stop using (Maddux & Rogers, 1983), cause implementation and use issues (Brynes & Johnson, 1981), or sabotage implementation (Brod, 1982; Goldstein et al., 2006) despite rewards and pressure. An increasing body of research examines how digital business agility and technology-enabled skills influence each other (Ravasi et al., 2020). This conceptual elaboration lets us make significant contributions. We demonstrate digital business agility and technology-enabled skills by distinguishing family enterprises and company families (Le Breton Miller & Miller, 2018). Awareness and infrastructure show that family business owners must allocate more resources to digital business agility.

5.4 Digital business agility and external relationship management

Digital technology-enabled external relationship management involves managing relationships between an organisation and its external stakeholders, such as customers, suppliers, and partners, to deliver high-value IT applications (Li et al., 2021; Troise et al., 2022; Imgrund, 2018). Digital technology business strategic alignment involves aligning business plans and operations with digital technology (Heisterberg & Verma, 2014). Digital technology-enabled internal relationship management helps organisations build strong internal partnerships between digital technology providers and users to foster positive interaction and rich dialogue and deliver desired digital technologies. Management of digital technology infrastructure involves establishing and maintaining a flexible infrastructure that supports current business operations and allows for future business changes (Li et al., 2021; Troise, 2022).

Digital technology-enabled information processing abilities can reduce ambiguity in the information and shorten the time it takes to process information by reducing the flow of unnecessary information within the organisation. Findings showed that digital technology makes it easier to handle relationships with customers on the outside (Von Leipzig et al. 2017; Eller et al. 2020). A key part of partner relationships (Li et al., 2021) is using the digital technology skills of the firm's partners to both of their gain. Creating the right IT systems and networks with the help of outside partners makes it easier to build long-term relationships that are good for all of the firms involved. (Li et al., 2021; Troise et al., 2022) For example, feedback from investors and customers is a key part of managing digital business agility-enabled technology skills.

5.5 Digital business agility and market agility

Digital change has been named as a strategy that must be used to make markets more flexible. Market agility, according to the literature on organisational agility (Li et al., 2021) means that a company is able to predict changes in its business environment and use its resources successfully to deal with them. Because it affects how digital technology infrastructure management is done, digital technology-enabled user management has a big effect on how quickly a market can change. (Hajli et al., 2020) have stated that a middle-level contribution could be used to figure out how operational performance affects enterprise performance. User management is an action at the operational level, while market agility is an action at the strategy level. It is likely that this lower-level digital technology management activity's effect on market

agility will be handled by an intermediate-level effect, in this case, the management of digital technology infrastructure (Hajli et al., 2020).

Management of digital technology networks may involve more collaboration between users and experts. (O'Connor et al., 2022) say that users and providers must understand digital technology in order to choose it. By working together, providers of digital technology can better understand what businesses need and build an infrastructure that gives them the digital technology services and policies they want and gives them the freedom to meet future needs (Li et al., 2021; Troise et al., 2022). Digital technology infrastructure management (Von Leipzig et al. 2017; Eller et al. 2020) helps companies quickly change the way their digital technology tools are set up or add new ones to meet unexpected changes in demand. So, with a good digital technology infrastructure management system, businesses can quickly react to changing client needs and unplanned events. (Li et al., 2021) They can add or take away resources at any time without having to buy new gear or software.

6. Theoretical implications

This study contributes to the SDT and SET in two ways. Firstly, as a result of this research, we were able to contribute to theoretical frameworks such as the self-determination theory and the social exchange theory to help Sri Lankan family business owners to deal with the challenges of digital agility. As opposed to most research on the adoption of digital technologies (Melville & Ramirez, 2008; Premkumar et al., 2005), this study examined lateral relationships and their relationship to the management of digital technologies rather than the adoption of software and the design of organizational structures. The main theoretical implication is the development of the integrated framework which facilitates digital technology infrastructure management among Sri Lankan family business owners.

Secondly, findings based on the SET shows the capability of IT department within the firms as IT facilitates electronic interaction and resource exchange between enterprises, their customers, and other stakeholders. In order to gain insight into how IT adoption affects these family income sources, researchers, consultants, and practitioners need to understand how it impacts business capabilities (Horváth & Szabó, 2019). As costs reduce, computers and IT programs become easier and more accessible, and accessibility improves, IT has become a viable resource for many organizations. However, small businesses have been slower to adopt IT innovations. Small family businesses interact primarily with their economic/market

environment through IT which is encouraged through this study (Horváth & Szabó, 2019). This study provides concrete evidence that, lack of infrastructure and outdated technology does not lead to progressive involvement and commitment for employees or customers.

7. Managerial implications

The autonomy and limited resources of family businesses make them open towards external risks such as economic loss, policy changes and political threats (Troise et al., 2022). A family firm typically experiences a crisis twice, once as a private citizen, and then again as a business owner. Family firms, including family SMEs, need to manage crises effectively in order to preserve their socioemotional endowment. The skills, talents, and expertise to manage digital technologies are lacking in Sri Lankan family businesses. In Sri Lanka, for example, several scholars identified a variety of economic and socio-cultural behaviours among small businesses (Batten & Hettihewa, 1999; Fernando & Almeida, 2012; Wijewardena et al., 2023) with fewer studies examining the digital agility of family businesses (Fernando & Almeida, 2012; Wijewardena et al., 2023; Jayawardena et al., 2023).

This study addresses this lack of research area using a mono method qualitative study for family business firms in Sri Lanka. Our findings revealed that, workforce transformation, social media engagement, technology-enabled capabilities, external relationship management and market agility as antecedent of a firm's digital business agility. The development of digital business agility with a variety of sources such as social media, blogging, video advertising, and many more marketing tactics has become inevitable today (Li et al., 2021). As a result, uncertainty and ambiguity affect an organization's ability to respond to the environment (Von Leipzig et al. 2017; Eller et al. 2020). Digital agility will be influenced by a variety of factors, including workforce transformation, social media engagement, technology-enabled capabilities, external relationship management, and market agility. IT resources will be used to reduce uncertainty and equivocation in business processes and cultivate lateral relationships (Hajli et al., 2020; Von Leipzig et al. 2017; Eller et al. 2020).

8. Conclusion and Limitations

This qualitative study examines the challenges Sri Lankan family business owners face in managing digital agility during the ongoing economic crisis situation. Using the self-determination theory and social exchange theory, this study examined Sri Lankan family business owners' management strategies for dealing with digital agility. Using NVivo software, the authors conducted interviews with 25 family business owners in Sri Lanka. There are five thematic findings that have been identified as challenges for Sri Lankan family businesses in developing and managing their digital agility.

Among the potential limitations of the present study is the range of indicators used to reflect each of the constructs in the research model that incorporates the self-determination theory and the social exchange theory. This study used a mono-method qualitative approach, however future researchers may benefit from using multiple data collection approaches, such as expert opinions, pre-testing, and pilot-testing. In conclusion, this study showed that, digital capability plays a significant role in supporting top management in applying ambidextrous leadership in turbulent times. This study found the right strategies for family business owners in Sri Lanka by figuring out how to deal with the problems that come with developing and managing digital agility. This was done in order to set up an effective digital technology infrastructure, build digitally enabled relationships with both customers and employees, and make sure that digital technology is in line with business strategy.

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